T.0810

SEQUENCE LISTING

<110> Sheppard, Paul O.
Baindur, Nand
Bishop, Paul D.

<120> MAMMALIAN ADHESION PROTEASE PEPTIDES

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<170> FastSEQ for Windows Version 3.0

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<213> Homo sapiens

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Arg Ala Arg Gly Thr Pro Leu Leu Leu Leu Leu Leu Leu Leu Leu Leu
            10                  15                  20

tgg cca gtg cca ggc gcc ggg gtg ctt caa gga cat atc cct ggg cag      150
Trp Pro Val Pro Gly Ala Gly Val Leu Gln Gly His Ile Pro Gly Gln
        25                  30                  35

cca gtc acc ccg cac tgg gtc ctg gat gga caa ccc tgg cgc acc gtc      198
Pro Val Thr Pro His Trp Val Leu Asp Gly Gln Pro Trp Arg Thr Val
    40                  45                  50
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agc ctg gag gag ccg gtc tcg aag cca gac atg ggg ctg gtg gcc ctg      246
Ser Leu Glu Glu Pro Val Ser Lys Pro Asp Met Gly Leu Val Ala Leu
 55                  60                  65                  70

gag gct gaa ggc cag gag ctc ctg ctt gag ctg gag aag aac cac agg      294
Glu Ala Glu Gly Gln Glu Leu Leu Leu Glu Leu Glu Lys Asn His Arg
                 75                  80                  85

ctg ctg gcc cca gga tac ata gaa acc cac tac ggc cca gat ggg cag      342
Leu Leu Ala Pro Gly Tyr Ile Glu Thr His Tyr Gly Pro Asp Gly Gln
            90                  95                 100

cca gtg gtg ctg gcc ccc aac cac acg gat cat tgc cac tac caa ggg      390
Pro Val Val Leu Ala Pro Asn His Thr Asp His Cys His Tyr Gln Gly
        105                 110                 115

cga gta agg ggc ttc ccc gac tcc tgg gta gtc ctc tgc acc tgc tct      438
Arg Val Arg Gly Phe Pro Asp Ser Trp Val Val Leu Cys Thr Cys Ser
    120                 125                 130

ggg atg agt ggc ctg atc acc ctc agc agg aat gcc agc tat tat ctg      486
Gly Met Ser Gly Leu Ile Thr Leu Ser Arg Asn Ala Ser Tyr Tyr Leu
135                 140                 145                 150

cgt ccc tgg cca ccc cgg ggc tcc aag gac ttc tca acc cac gag atc      534
Arg Pro Trp Pro Pro Arg Gly Ser Lys Asp Phe Ser Thr His Glu Ile
                155                 160                 165

ttt cgg atg gag cag ctg ctc acc tgg aaa gga acc tgt ggc cac agg      582
Phe Arg Met Glu Gln Leu Leu Thr Trp Lys Gly Thr Cys Gly His Arg
            170                 175                 180

gat cct ggg aac aaa gcg ggc atg acc agc ctt cct ggt ggt ccc cag      630
Asp Pro Gly Asn Lys Ala Gly Met Thr Ser Leu Pro Gly Gly Pro Gln
        185                 190                 195

agc agg ggc agg cga gaa gcg cgc agg acc cgg aag tac ctg gaa ctg      678
Ser Arg Gly Arg Arg Glu Ala Arg Arg Thr Arg Lys Tyr Leu Glu Leu
    200                 205                 210

tac att gtg gca gac cac acc ctg ttc ttg act cgg cac cga aac ttg      726
Tyr Ile Val Ala Asp His Thr Leu Phe Leu Thr Arg His Arg Asn Leu
215                 220                 225                 230
```

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aac cac acc aaa cag cgt ctc ctg gaa gtc gcc aac tac gtg gac cag      774
Asn His Thr Lys Gln Arg Leu Leu Glu Val Ala Asn Tyr Val Asp Gln
                235                 240                 245

ctt ctc agg act ctg gac att cag gtg gcg ctg acc ggc ctg gag gtg      822
Leu Leu Arg Thr Leu Asp Ile Gln Val Ala Leu Thr Gly Leu Glu Val
            250                 255                 260

tgg acc gag cgg gac cgc agc cgc gtc acg cag gac gcc aac gcc acg      870
Trp Thr Glu Arg Asp Arg Ser Arg Val Thr Gln Asp Ala Asn Ala Thr
        265                 270                 275

ctc tgg gcc ttc ctg cag tgg cgc cgg ggg ctg tgg gcg cag cgg ccc      918
Leu Trp Ala Phe Leu Gln Trp Arg Arg Gly Leu Trp Ala Gln Arg Pro
    280                 285                 290

cac gac tcc gcg cag ctg ctc acg ggc cgc gcc ttc cag ggc gcc aca      966
His Asp Ser Ala Gln Leu Leu Thr Gly Arg Ala Phe Gln Gly Ala Thr
295                 300                 305                 310

gtg ggc ctg gcg ccc gtc gag ggc atg tgc cgc gcc gag agc tcg gga     1014
Val Gly Leu Ala Pro Val Glu Gly Met Cys Arg Ala Glu Ser Ser Gly
                315                 320                 325

ggc gtg agc acg gac cac tcg gag ctc ccc atc ggc gcc gca gcc acc     1062
Gly Val Ser Thr Asp His Ser Glu Leu Pro Ile Gly Ala Ala Ala Thr
            330                 335                 340

atg gcc cat gag atc ggc cac agc ctc ggc ctc agc cac gac ccc gac     1110
Met Ala His Glu Ile Gly His Ser Leu Gly Leu Ser His Asp Pro Asp
        345                 350                 355

ggc tgc tgc gtg gag gct gcg gcc gag tcc gga ggc tgc gtc atg gct     1158
Gly Cys Cys Val Glu Ala Ala Ala Glu Ser Gly Gly Cys Val Met Ala
    360                 365                 370

gcg gcc acc ggg cac ccg ttt ccg cgc gtg ttc agc gcc tgc agc cgc     1206
Ala Ala Thr Gly His Pro Phe Pro Arg Val Phe Ser Ala Cys Ser Arg
375                 380                 385                 390
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cgc cag ctg cgc gcc ttc ttc cgc aag ggg ggc ggc gct tgc ctc tcc     1254
Arg Gln Leu Arg Ala Phe Phe Arg Lys Gly Gly Gly Ala Cys Leu Ser
                395                 400                 405

aat gcc ccg gac ccc gga ctc ccg gtg ccg ccg gcg ctc tgc ggg aac     1302
Asn Ala Pro Asp Pro Gly Leu Pro Val Pro Pro Ala Leu Cys Gly Asn
            410                 415                 420

ggc ttc gtg gaa gcg ggc gag gag tgt gac tgc ggc cct ggc cag gag     1350
Gly Phe Val Glu Ala Gly Glu Glu Cys Asp Cys Gly Pro Gly Gln Glu
        425                 430                 435

tgc cgc gac ctc tgc tgc ttt gct cac aac tgc tcg ctg cgc ccg ggg     1398
Cys Arg Asp Leu Cys Cys Phe Ala His Asn Cys Ser Leu Arg Pro Gly
    440                 445                 450

gcc cag tgc gcc cac ggg gac tgc tgc gtg cgc tgc ctg ctg aag ccg     1446
Ala Gln Cys Ala His Gly Asp Cys Cys Val Arg Cys Leu Leu Lys Pro
455                 460                 465                 470

gct gga gcg ctg tgc cgc cag gcc atg ggt gac tgt gac ctc cct gag     1494
Ala Gly Ala Leu Cys Arg Gln Ala Met Gly Asp Cys Asp Leu Pro Glu
                475                 480                 485

ttt tgc acg ggc acc tcc tcc cac tgt ccc cca gac gtt tac cta ctg     1542
Phe Cys Thr Gly Thr Ser Ser His Cys Pro Pro Asp Val Tyr Leu Leu
            490                 495                 500

gac ggc tca ccc tgt gcc agg ggc agt ggc tac tgc tgg gat ggc gca     1590
Asp Gly Ser Pro Cys Ala Arg Gly Ser Gly Tyr Cys Trp Asp Gly Ala
        505                 510                 515

tgt ccc acg ctg gag cag cag tgc cag cag ctc tgg ggg cct ggc tcc     1638
Cys Pro Thr Leu Glu Gln Gln Cys Gln Gln Leu Trp Gly Pro Gly Ser
    520                 525                 530

cac cca gct ccc gag gcc tgt ttc cag gtg gtg aac tct gcg gga gat     1686
His Pro Ala Pro Glu Ala Cys Phe Gln Val Val Asn Ser Ala Gly Asp
535                 540                 545                 550

gct cat gga aac tgc ggc cag gac agc gag ggc cac ttc ctg ccc tgt     1734
Ala His Gly Asn Cys Gly Gln Asp Ser Glu Gly His Phe Leu Pro Cys
                555                 560                 565
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gca ggg agg gat gcc ctg tgt ggg aag ctg cag tgc cag ggt gga aag     1782
Ala Gly Arg Asp Ala Leu Cys Gly Lys Leu Gln Cys Gln Gly Gly Lys
            570                 575                 580

ccc agc ctg ctc gca ccg cac atg gtg cca gtg gac tct acc gtt cac     1830
Pro Ser Leu Leu Ala Pro His Met Val Pro Val Asp Ser Thr Val His
        585                 590                 595

cta gat ggc cag gaa gtg act tgt cgg gga gcc ttg gca ctc ccc agt     1878
Leu Asp Gly Gln Glu Val Thr Cys Arg Gly Ala Leu Ala Leu Pro Ser
    600                 605                 610

gcc cag ctg gac ctg ctt ggc ctg ggc ctg gta gag cca ggc acc cag     1926
Ala Gln Leu Asp Leu Leu Gly Leu Gly Leu Val Glu Pro Gly Thr Gln
615                 620                 625                 630

tgt gga cct aga atg gtg tgc cag agc agg cgc tgc agg aag aat gcc     1974
Cys Gly Pro Arg Met Val Cys Gln Ser Arg Arg Cys Arg Lys Asn Ala
                635                 640                 645

ttc cag gag ctt cag cgc tgc ctg act gcc tgc cac agc cac ggg gct     2022
Phe Gln Glu Leu Gln Arg Cys Leu Thr Ala Cys His Ser His Gly Ala
            650                 655                 660

ggg ctc cac cct tct gtg aca agc cag gct ttg gtg gca gca tgg aca     2070
Gly Leu His Pro Ser Val Thr Ser Gln Ala Leu Val Ala Ala Trp Thr
        665                 670                 675

gtg gcc ctg tgc agg ctg aaa acc atg aca cct tcc tgc tgg cca tgc     2118
Val Ala Leu Cys Arg Leu Lys Thr Met Thr Pro Ser Cys Trp Pro Cys
    680                 685                 690

tcc tca gcg tcc tgc tgc ctc tgc tcc cag ggg ccg gcc tgg cct ggt     2166
Ser Ser Ala Ser Cys Cys Leu Cys Ser Gln Gly Pro Ala Trp Pro Gly
695                 700                 705                 710

gtt gct acc gac tcc cag gag ccc atc tgc agc gat gca gct ggg gct     2214
Val Ala Thr Asp Ser Gln Glu Pro Ile Cys Ser Asp Ala Ala Gly Ala
                715                 720                 725
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gca gaa ggg acc ctg cgt gca gtg gcc cca aag atg gcc cac aca ggg     2262
Ala Glu Gly Thr Leu Arg Ala Val Ala Pro Lys Met Ala His Thr Gly
            730                 735                 740

acc acc ccc tgg gcg gcg ttc acc cca tgg agt tgg gcc cca cag cca     2310
Thr Thr Pro Trp Ala Ala Phe Thr Pro Trp Ser Trp Ala Pro Gln Pro
        745                 750                 755

ctg gac agc cct ggc ccc tgg acc ctg aga act ctc atg agc cca gca     2358
Leu Asp Ser Pro Gly Pro Trp Thr Leu Arg Thr Leu Met Ser Pro Ala
    760                 765                 770

gcc acc ctg aga agc ctc tgc cag cag tct cgc ctg acc ccc aag atc     2406
Ala Thr Leu Arg Ser Leu Cys Gln Gln Ser Arg Leu Thr Pro Lys Ile
775                 780                 785                 790

aag tcc aga tgc caa gat cct gcc tct ggt gag agg tagctcctaa          2452
Lys Ser Arg Cys Gln Asp Pro Ala Ser Gly Glu Arg
                795                 800

aatgaacaga tttaaagaca ggtggccact gacagccact ccaggaactt gaactgcagg   2512
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gctggagaac actgctgggc acactctcca gctcaataaa ccatcagtcc cagaagcaaa   2692
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            20                  25                  30
Gly His Ile Pro Gly Gln Pro Val Thr Pro His Trp Val Leu Asp Gly
        35                  40                  45
Gln Pro Trp Arg Thr Val Ser Leu Glu Glu Pro Val Ser Lys Pro Asp
    50                  55                  60
Met Gly Leu Val Ala Leu Glu Ala Glu Gly Gln Glu Leu Leu Leu Glu
65                  70                  75                  80
Leu Glu Lys Asn His Arg Leu Leu Ala Pro Gly Tyr Ile Glu Thr His
                85                  90                  95
Tyr Gly Pro Asp Gly Gln Pro Val Val Leu Ala Pro Asn His Thr Asp
            100                 105                 110
His Cys His Tyr Gln Gly Arg Val Arg Gly Phe Pro Asp Ser Trp Val
        115                 120                 125
Val Leu Cys Thr Cys Ser Gly Met Ser Gly Leu Ile Thr Leu Ser Arg
    130                 135                 140
Asn Ala Ser Tyr Tyr Leu Arg Pro Trp Pro Pro Arg Gly Ser Lys Asp
145                 150                 155                 160
Phe Ser Thr His Glu Ile Phe Arg Met Glu Gln Leu Leu Thr Trp Lys
                165                 170                 175
Gly Thr Cys Gly His Arg Asp Pro Gly Asn Lys Ala Gly Met Thr Ser
            180                 185                 190
Leu Pro Gly Gly Pro Gln Ser Arg Gly Arg Arg Glu Ala Arg Arg Thr
        195                 200                 205
Arg Lys Tyr Leu Glu Leu Tyr Ile Val Ala Asp His Thr Leu Phe Leu
    210                 215                 220
Thr Arg His Arg Asn Leu Asn His Thr Lys Gln Arg Leu Leu Glu Val
225                 230                 235                 240
Ala Asn Tyr Val Asp Gln Leu Leu Arg Thr Leu Asp Ile Gln Val Ala
                245                 250                 255
Leu Thr Gly Leu Glu Val Trp Thr Glu Arg Asp Arg Ser Arg Val Thr
            260                 265                 270
Gln Asp Ala Asn Ala Thr Leu Trp Ala Phe Leu Gln Trp Arg Arg Gly
        275                 280                 285
Leu Trp Ala Gln Arg Pro His Asp Ser Ala Gln Leu Leu Thr Gly Arg
    290                 295                 300
Ala Phe Gln Gly Ala Thr Val Gly Leu Ala Pro Val Glu Gly Met Cys
305                 310                 315                 320
Arg Ala Glu Ser Ser Gly Gly Val Ser Thr Asp His Ser Glu Leu Pro
                325                 330                 335
```

```
Ile Gly Ala Ala Ala Thr Met Ala His Glu Ile Gly His Ser Leu Gly
            340                 345                 350
Leu Ser His Asp Pro Asp Gly Cys Cys Val Glu Ala Ala Ala Glu Ser
        355                 360                 365
Gly Gly Cys Val Met Ala Ala Ala Thr Gly His Pro Phe Pro Arg Val
    370                 375                 380
Phe Ser Ala Cys Ser Arg Arg Gln Leu Arg Ala Phe Phe Arg Lys Gly
385                 390                 395                 400
Gly Gly Ala Cys Leu Ser Asn Ala Pro Asp Pro Gly Leu Pro Val Pro
                405                 410                 415
Pro Ala Leu Cys Gly Asn Gly Phe Val Glu Ala Gly Glu Glu Cys Asp
            420                 425                 430
Cys Gly Pro Gly Gln Glu Cys Arg Asp Leu Cys Cys Phe Ala His Asn
        435                 440                 445
Cys Ser Leu Arg Pro Gly Ala Gln Cys Ala His Gly Asp Cys Cys Val
    450                 455                 460
Arg Cys Leu Leu Lys Pro Ala Gly Ala Leu Cys Arg Gln Ala Met Gly
465                 470                 475                 480
Asp Cys Asp Leu Pro Glu Phe Cys Thr Gly Thr Ser Ser His Cys Pro
                485                 490                 495
Pro Asp Val Tyr Leu Leu Asp Gly Ser Pro Cys Ala Arg Gly Ser Gly
            500                 505                 510
Tyr Cys Trp Asp Gly Ala Cys Pro Thr Leu Glu Gln Gln Cys Gln Gln
        515                 520                 525
Leu Trp Gly Pro Gly Ser His Pro Ala Pro Glu Ala Cys Phe Gln Val
    530                 535                 540
Val Asn Ser Ala Gly Asp Ala His Gly Asn Cys Gly Gln Asp Ser Glu
545                 550                 555                 560
Gly His Phe Leu Pro Cys Ala Gly Arg Asp Ala Leu Cys Gly Lys Leu
                565                 570                 575
Gln Cys Gln Gly Gly Lys Pro Ser Leu Leu Ala Pro His Met Val Pro
            580                 585                 590
Val Asp Ser Thr Val His Leu Asp Gly Gln Glu Val Thr Cys Arg Gly
        595                 600                 605
Ala Leu Ala Leu Pro Ser Ala Gln Leu Asp Leu Leu Gly Leu Gly Leu
    610                 615                 620
Val Glu Pro Gly Thr Gln Cys Gly Pro Arg Met Val Cys Gln Ser Arg
625                 630                 635                 640
Arg Cys Arg Lys Asn Ala Phe Gln Glu Leu Gln Arg Cys Leu Thr Ala
                645                 650                 655
Cys His Ser His Gly Ala Gly Leu His Pro Ser Val Thr Ser Gln Ala
            660                 665                 670
```

```
Leu Val Ala Ala Trp Thr Val Ala Leu Cys Arg Leu Lys Thr Met Thr
        675                 680                 685
Pro Ser Cys Trp Pro Cys Ser Ser Ala Ser Cys Cys Leu Cys Ser Gln
    690                 695                 700
Gly Pro Ala Trp Pro Gly Val Ala Thr Asp Ser Gln Glu Pro Ile Cys
705                 710                 715                 720
Ser Asp Ala Ala Gly Ala Ala Glu Gly Thr Leu Arg Ala Val Ala Pro
                725                 730                 735
Lys Met Ala His Thr Gly Thr Thr Pro Trp Ala Ala Phe Thr Pro Trp
            740                 745                 750
Ser Trp Ala Pro Gln Pro Leu Asp Ser Pro Gly Pro Trp Thr Leu Arg
        755                 760                 765
Thr Leu Met Ser Pro Ala Ala Thr Leu Arg Ser Leu Cys Gln Gln Ser
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Arg Leu Thr Pro Lys Ile Lys Ser Arg Cys Gln Asp Pro Ala Ser Gly
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Glu Arg
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                                        Met Gly Trp Arg Pro Arg
                                         1               5

aga gct cgg ggg acc ccg ttg ctg ctg ctg cta cta ctg ctg ctg ctc     102
Arg Ala Arg Gly Thr Pro Leu Leu Leu Leu Leu Leu Leu Leu Leu Leu
            10                  15                  20

tgg cca gtg cca ggc gcc ggg gtg ctt caa gga cat atc cct ggg cag     150
Trp Pro Val Pro Gly Ala Gly Val Leu Gln Gly His Ile Pro Gly Gln
        25                  30                  35
```

```
cca gtc acc ccg cac tgg gtc ctg gat gga caa ccc tgg cgc acc gtc      198
Pro Val Thr Pro His Trp Val Leu Asp Gly Gln Pro Trp Arg Thr Val
     40                  45                  50

agc ctg gag gag ccg gtc tcg aag cca gac atg ggg ctg gtg gcc ctg      246
Ser Leu Glu Glu Pro Val Ser Lys Pro Asp Met Gly Leu Val Ala Leu
 55                  60                  65                  70

gag gct gaa ggc cag gag ctc ctg ctt gag ctg gag aag aac cac agg      294
Glu Ala Glu Gly Gln Glu Leu Leu Leu Glu Leu Glu Lys Asn His Arg
                 75                  80                  85

ctg ctg gcc cca gga tac ata gaa acc cac tac ggc cca gat ggg cag      342
Leu Leu Ala Pro Gly Tyr Ile Glu Thr His Tyr Gly Pro Asp Gly Gln
            90                  95                 100

cca gtg gtg ctg gcc ccc aac cac acg gat cat tgc cac tac caa ggg      390
Pro Val Val Leu Ala Pro Asn His Thr Asp His Cys His Tyr Gln Gly
        105                 110                 115

cga gta agg ggc ttc ccc gac tcc tgg gta gtc ctc tgc acc tgc tct      438
Arg Val Arg Gly Phe Pro Asp Ser Trp Val Val Leu Cys Thr Cys Ser
    120                 125                 130

ggg atg agt ggc ctg atc acc ctc agc agg aat gcc agc tat tat ctg      486
Gly Met Ser Gly Leu Ile Thr Leu Ser Arg Asn Ala Ser Tyr Tyr Leu
135                 140                 145                 150

cgt ccc tgg cca ccc cgg ggc tcc aag gac ttc tca acc cac gag atc      534
Arg Pro Trp Pro Pro Arg Gly Ser Lys Asp Phe Ser Thr His Glu Ile
                155                 160                 165

ttt cgg atg gag cag ctg ctc acc tgg aaa gga acc tgt ggc cac agg      582
Phe Arg Met Glu Gln Leu Leu Thr Trp Lys Gly Thr Cys Gly His Arg
            170                 175                 180

gat cct ggg aac aaa gcg ggc atg acc agc ctt cct ggt ggt ccc cag      630
Asp Pro Gly Asn Lys Ala Gly Met Thr Ser Leu Pro Gly Gly Pro Gln
        185                 190                 195

agc agg ggc agg cga gaa gcg cgc agg acc cgg aag tac ctg gaa ctg      678
Ser Arg Gly Arg Arg Glu Ala Arg Arg Thr Arg Lys Tyr Leu Glu Leu
    200                 205                 210
```

```
tac att gtg gca gac cac acc ctg ttc ttg act cgg cac cga aac ttg      726
Tyr Ile Val Ala Asp His Thr Leu Phe Leu Thr Arg His Arg Asn Leu
215                 220                 225                 230

aac cac acc aaa cag cgt ctc ctg gaa gtc gcc aac tac gtg gac cag      774
Asn His Thr Lys Gln Arg Leu Leu Glu Val Ala Asn Tyr Val Asp Gln
                235                 240                 245

ctt ctc agg act ctg gac att cag gtg gcg ctg acc ggc ctg gag gtg      822
Leu Leu Arg Thr Leu Asp Ile Gln Val Ala Leu Thr Gly Leu Glu Val
            250                 255                 260

tgg acc gag cgg gac cgc agc cgc gtc acg cag gac gcc aac gcc acg      870
Trp Thr Glu Arg Asp Arg Ser Arg Val Thr Gln Asp Ala Asn Ala Thr
        265                 270                 275

ctc tgg gcc ttc ctg cag tgg cgc cgg ggg ctg tgg gcg cag cgg ccc      918
Leu Trp Ala Phe Leu Gln Trp Arg Arg Gly Leu Trp Ala Gln Arg Pro
    280                 285                 290

cac gac tcc gcg cag ctg ctc acg ggc cgc gcc ttc cag ggc gcc aca      966
His Asp Ser Ala Gln Leu Leu Thr Gly Arg Ala Phe Gln Gly Ala Thr
295                 300                 305                 310

gtg ggc ctg gcg ccc gtc gag ggc atg tgc cgc gcc gag agc tcg gga     1014
Val Gly Leu Ala Pro Val Glu Gly Met Cys Arg Ala Glu Ser Ser Gly
                315                 320                 325

ggc gtg agc acg gac cac tcg gag ctc ccc atc ggc gcc gca gcc acc     1062
Gly Val Ser Thr Asp His Ser Glu Leu Pro Ile Gly Ala Ala Ala Thr
            330                 335                 340

atg gcc cat gag atc ggc cac agc ctc ggc ctc agc cac gac ccc gac     1110
Met Ala His Glu Ile Gly His Ser Leu Gly Leu Ser His Asp Pro Asp
        345                 350                 355

ggc tgc tgc gtg gag gct gcg gcc gag tcc gga ggc tgc gtc atg gct     1158
Gly Cys Cys Val Glu Ala Ala Ala Glu Ser Gly Gly Cys Val Met Ala
    360                 365                 370
```

```
gcg gcc acc ggg cac ccg ttt ccg cgc gtg ttc agc gcc tgc agc cgc      1206
Ala Ala Thr Gly His Pro Phe Pro Arg Val Phe Ser Ala Cys Ser Arg
375                 380                 385                 390

cgc cag ctg cgc gcc ttc ttc cgc aag ggg ggc ggc gct tgc ctc tcc      1254
Arg Gln Leu Arg Ala Phe Phe Arg Lys Gly Gly Gly Ala Cys Leu Ser
                395                 400                 405

aat gcc ccg gac ccc gga ctc ccg gtg ccg ccg gcg ctc tgc ggg aac      1302
Asn Ala Pro Asp Pro Gly Leu Pro Val Pro Pro Ala Leu Cys Gly Asn
            410                 415                 420

ggc ttc gtg gaa gcg ggc gag gag tgt gac tgc ggc cct ggc cag gag      1350
Gly Phe Val Glu Ala Gly Glu Glu Cys Asp Cys Gly Pro Gly Gln Glu
        425                 430                 435

tgc cgc gac ctc tgc tgc ttt gct cac aac tgc tcg ctg cgc ccg ggg      1398
Cys Arg Asp Leu Cys Cys Phe Ala His Asn Cys Ser Leu Arg Pro Gly
    440                 445                 450

gcc cag tgc gcc cac ggg gac tgc tgc gtg cgc tgc ctg ctg aag ccg      1446
Ala Gln Cys Ala His Gly Asp Cys Cys Val Arg Cys Leu Leu Lys Pro
455                 460                 465                 470

gct gga gcg ctg tgc cgc cag gcc atg ggt gac tgt gac ctc cct gag      1494
Ala Gly Ala Leu Cys Arg Gln Ala Met Gly Asp Cys Asp Leu Pro Glu
                475                 480                 485

ttt tgc acg ggc acc tcc tcc cac tgt ccc cca gac gtt tac cta ctg      1542
Phe Cys Thr Gly Thr Ser Ser His Cys Pro Pro Asp Val Tyr Leu Leu
            490                 495                 500

gac ggc tca ccc tgt gcc agg ggc agt ggc tac tgc tgg gat ggc gca      1590
Asp Gly Ser Pro Cys Ala Arg Gly Ser Gly Tyr Cys Trp Asp Gly Ala
        505                 510                 515

tgt ccc acg ctg gag cag cag tgc cag cag ctc tgg ggg cct ggc tcc      1638
Cys Pro Thr Leu Glu Gln Gln Cys Gln Gln Leu Trp Gly Pro Gly Ser
    520                 525                 530

cac cca gct ccc gag gcc tgt ttc cag gtg gtg aac tct gcg gga gat      1686
His Pro Ala Pro Glu Ala Cys Phe Gln Val Val Asn Ser Ala Gly Asp
535                 540                 545                 550
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gct cat gga aac tgc ggc cag gac agc gag ggc cac ttc ctg ccc tgt      1734
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                555                 560                 565

gca ggg agg gat gcc ctg tgt ggg aag ctg cag tgc cag ggt gga aag      1782
Ala Gly Arg Asp Ala Leu Cys Gly Lys Leu Gln Cys Gln Gly Gly Lys
            570                 575                 580

ccc agc ctg ctc gca ccg cac atg gtg cca gtg gac tct acc gtt cac      1830
Pro Ser Leu Leu Ala Pro His Met Val Pro Val Asp Ser Thr Val His
        585                 590                 595

cta gat ggc cag gaa gtg act tgt cgg gga gcc ttg gca ctc ccc agt      1878
Leu Asp Gly Gln Glu Val Thr Cys Arg Gly Ala Leu Ala Leu Pro Ser
    600                 605                 610

gcc cag ctg gac ctg ctt ggc ctg ggc ctg gta gag cca ggc acc cag      1926
Ala Gln Leu Asp Leu Leu Gly Leu Gly Leu Val Glu Pro Gly Thr Gln
615                 620                 625                 630

tgt gga cct aga atg gtg tgc cag agc agg cgc tgc agg aag aat gcc      1974
Cys Gly Pro Arg Met Val Cys Gln Ser Arg Arg Cys Arg Lys Asn Ala
                635                 640                 645

ttc cag gag ctt cag cgc tgc ctg act gcc tgc cac agc cac ggg gtt      2022
Phe Gln Glu Leu Gln Arg Cys Leu Thr Ala Cys His Ser His Gly Val
            650                 655                 660

tgc aat agc aac cat aac tgc cac tgt gct cca ggc tgg gct cca ccc      2070
Cys Asn Ser Asn His Asn Cys His Cys Ala Pro Gly Trp Ala Pro Pro
        665                 670                 675

ttc tgt gac aag cca ggc ttt ggt ggc agc atg gac agt ggc cct gtg      2118
Phe Cys Asp Lys Pro Gly Phe Gly Gly Ser Met Asp Ser Gly Pro Val
    680                 685                 690

cag gct gaa aac cat gac acc ttc ctg ctg gcc atg ctc ctc agc gtc      2166
Gln Ala Glu Asn His Asp Thr Phe Leu Leu Ala Met Leu Leu Ser Val
695                 700                 705                 710
```

```
ctg ctg cct ctg ctc cca ggg gcc ggc ctg gcc tgg tgt tgc tac cga     2214
Leu Leu Pro Leu Leu Pro Gly Ala Gly Leu Ala Trp Cys Cys Tyr Arg
                715                 720                 725

ctc cca gga gcc cat ctg cag cga tgc agc tgg ggc tgc aga agg gac     2262
Leu Pro Gly Ala His Leu Gln Arg Cys Ser Trp Gly Cys Arg Arg Asp
            730                 735                 740

cct gcg tgc agt ggc ccc aaa gat ggc cca cac agg gac cac ccc ctg     2310
Pro Ala Cys Ser Gly Pro Lys Asp Gly Pro His Arg Asp His Pro Leu
        745                 750                 755

ggc ggc gtt cac ccc atg gag ttg ggc ccc aca gcc act gga cag ccc     2358
Gly Gly Val His Pro Met Glu Leu Gly Pro Thr Ala Thr Gly Gln Pro
    760                 765                 770

tgg ccc ctg gac cct gag aac tct cat gag ccc agc agc cac cct gag     2406
Trp Pro Leu Asp Pro Glu Asn Ser His Glu Pro Ser Ser His Pro Glu
775                 780                 785                 790

aag cct ctg cca gca gtc tcg cct gac ccc caa gat caa gtc cag atg     2454
Lys Pro Leu Pro Ala Val Ser Pro Asp Pro Gln Asp Gln Val Gln Met
                795                 800                 805

cca aga tcc tgc ctc tgg tgagaggtag ctcctaaaat gaacagattt           2502
Pro Arg Ser Cys Leu Trp
            810
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aaagacaggt ggccactgac agccactcca ggaacttgaa ctgcaggggc agagccagtg   2562
aatcaccgga cctccagcac ctgcaggcag cttggaagtt tcttccccga gtggagcttc   2622
gacccaccca ctccaggaac ccagagccac attagaagtt cctgagggct ggagaacact   2682
gctgggcaca ctctccagct caataaacca tcagtcccag aagcaaaggt cacacagccc   2742
ctgacctccc tcaccagtgg aggctgggta gtgctggcca tcccaaaagg gctctgtcct   2802
gggagtctgg tgtgtctcct acatgcaatt tccacggacc cagctctgtg gagggcatga   2862
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ctgaggttct ggagctcaga atctgacagc ctctccccca ttctgtgtgt gtcgggggga   3102
cagagggaac catttaagaa aagataccaa agtagaagtc aaaagaaaga catgttggct   3162
ataggcgtgg tggctcatgc ctataatccc agcactttgg gaagccgggg taggaggatc   3222
accagaggcc agcaggtcca caccagcctg ggcaacacag caagacaccg catctacaga   3282
aaaattttaa aattagctgg gcgtggtggt gtgtacctgt aggcctagct gctcaggagg   3342
ctgaagcagg aggatcactt gagcctgagt tcaacactgc agtgagctat ggtggcacca   3402
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ctgcactcca gcctgggtga cagagcaaga ccctgtctct aaaataaatt ttaaaaagac 3462
atatta 3468

<210> 4
<211> 812
<212> PRT
<213> Homo sapiens

<400> 4

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 1               5                  10                  15
Leu Leu Leu Leu Leu Leu Trp Pro Val Pro Gly Ala Gly Val Leu Gln
            20                  25                  30
Gly His Ile Pro Gly Gln Pro Val Thr Pro His Trp Val Leu Asp Gly
        35                  40                  45
Gln Pro Trp Arg Thr Val Ser Leu Glu Glu Pro Val Ser Lys Pro Asp
    50                  55                  60
Met Gly Leu Val Ala Leu Glu Ala Glu Gly Gln Glu Leu Leu Leu Glu
65                  70                  75                  80
Leu Glu Lys Asn His Arg Leu Leu Ala Pro Gly Tyr Ile Glu Thr His
                85                  90                  95
Tyr Gly Pro Asp Gly Gln Pro Val Val Leu Ala Pro Asn His Thr Asp
            100                 105                 110
His Cys His Tyr Gln Gly Arg Val Arg Gly Phe Pro Asp Ser Trp Val
        115                 120                 125
Val Leu Cys Thr Cys Ser Gly Met Ser Gly Leu Ile Thr Leu Ser Arg
    130                 135                 140
Asn Ala Ser Tyr Tyr Leu Arg Pro Trp Pro Pro Arg Gly Ser Lys Asp
145                 150                 155                 160
Phe Ser Thr His Glu Ile Phe Arg Met Glu Gln Leu Leu Thr Trp Lys
                165                 170                 175
Gly Thr Cys Gly His Arg Asp Pro Gly Asn Lys Ala Gly Met Thr Ser
            180                 185                 190
Leu Pro Gly Gly Pro Gln Ser Arg Gly Arg Arg Glu Ala Arg Arg Thr
        195                 200                 205
Arg Lys Tyr Leu Glu Leu Tyr Ile Val Ala Asp His Thr Leu Phe Leu
    210                 215                 220
Thr Arg His Arg Asn Leu Asn His Thr Lys Gln Arg Leu Leu Glu Val
225                 230                 235                 240
Ala Asn Tyr Val Asp Gln Leu Leu Arg Thr Leu Asp Ile Gln Val Ala
                245                 250                 255
Leu Thr Gly Leu Glu Val Trp Thr Glu Arg Asp Arg Ser Arg Val Thr
            260                 265                 270
```

```
Gln Asp Ala Asn Ala Thr Leu Trp Ala Phe Leu Gln Trp Arg Arg Gly
        275                 280                 285
Leu Trp Ala Gln Arg Pro His Asp Ser Ala Gln Leu Leu Thr Gly Arg
    290                 295                 300
Ala Phe Gln Gly Ala Thr Val Gly Leu Ala Pro Val Glu Gly Met Cys
305                 310                 315                 320
Arg Ala Glu Ser Ser Gly Gly Val Ser Thr Asp His Ser Glu Leu Pro
                325                 330                 335
Ile Gly Ala Ala Ala Thr Met Ala His Glu Ile Gly His Ser Leu Gly
            340                 345                 350
Leu Ser His Asp Pro Asp Gly Cys Cys Val Glu Ala Ala Ala Glu Ser
        355                 360                 365
Gly Gly Cys Val Met Ala Ala Ala Thr Gly His Pro Phe Pro Arg Val
    370                 375                 380
Phe Ser Ala Cys Ser Arg Arg Gln Leu Arg Ala Phe Phe Arg Lys Gly
385                 390                 395                 400
Gly Gly Ala Cys Leu Ser Asn Ala Pro Asp Pro Gly Leu Pro Val Pro
                405                 410                 415
Pro Ala Leu Cys Gly Asn Gly Phe Val Glu Ala Gly Glu Glu Cys Asp
            420                 425                 430
Cys Gly Pro Gly Gln Glu Cys Arg Asp Leu Cys Cys Phe Ala His Asn
        435                 440                 445
Cys Ser Leu Arg Pro Gly Ala Gln Cys Ala His Gly Asp Cys Cys Val
    450                 455                 460
Arg Cys Leu Leu Lys Pro Ala Gly Ala Leu Cys Arg Gln Ala Met Gly
465                 470                 475                 480
Asp Cys Asp Leu Pro Glu Phe Cys Thr Gly Thr Ser Ser His Cys Pro
                485                 490                 495
Pro Asp Val Tyr Leu Leu Asp Gly Ser Pro Cys Ala Arg Gly Ser Gly
            500                 505                 510
Tyr Cys Trp Asp Gly Ala Cys Pro Thr Leu Glu Gln Gln Cys Gln Gln
        515                 520                 525
Leu Trp Gly Pro Gly Ser His Pro Ala Pro Glu Ala Cys Phe Gln Val
    530                 535                 540
Val Asn Ser Ala Gly Asp Ala His Gly Asn Cys Gly Gln Asp Ser Glu
545                 550                 555                 560
Gly His Phe Leu Pro Cys Ala Gly Arg Asp Ala Leu Cys Gly Lys Leu
                565                 570                 575
Gln Cys Gln Gly Gly Lys Pro Ser Leu Leu Ala Pro His Met Val Pro
            580                 585                 590
Val Asp Ser Thr Val His Leu Asp Gly Gln Glu Val Thr Cys Arg Gly
        595                 600                 605
```

```
Ala Leu Ala Leu Pro Ser Ala Gln Leu Asp Leu Leu Gly Leu Gly Leu
    610                 615                 620
Val Glu Pro Gly Thr Gln Cys Gly Pro Arg Met Val Cys Gln Ser Arg
625                 630                 635                 640
Arg Cys Arg Lys Asn Ala Phe Gln Glu Leu Gln Arg Cys Leu Thr Ala
                645                 650                 655
Cys His Ser His Gly Val Cys Asn Ser Asn His Asn Cys His Cys Ala
            660                 665                 670
Pro Gly Trp Ala Pro Pro Phe Cys Asp Lys Pro Gly Phe Gly Gly Ser
        675                 680                 685
Met Asp Ser Gly Pro Val Gln Ala Glu Asn His Asp Thr Phe Leu Leu
    690                 695                 700
Ala Met Leu Leu Ser Val Leu Leu Pro Leu Leu Pro Gly Ala Gly Leu
705                 710                 715                 720
Ala Trp Cys Cys Tyr Arg Leu Pro Gly Ala His Leu Gln Arg Cys Ser
                725                 730                 735
Trp Gly Cys Arg Arg Asp Pro Ala Cys Ser Gly Pro Lys Asp Gly Pro
            740                 745                 750
His Arg Asp His Pro Leu Gly Gly Val His Pro Met Glu Leu Gly Pro
        755                 760                 765
Thr Ala Thr Gly Gln Pro Trp Pro Leu Asp Pro Glu Asn Ser His Glu
    770                 775                 780
Pro Ser Ser His Pro Glu Lys Pro Leu Pro Ala Val Ser Pro Asp Pro
785                 790                 795                 800
Gln Asp Gln Val Gln Met Pro Arg Ser Cys Leu Trp
                805                 810
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<210> 5
<211> 2406
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate sequence

<221> misc_feature
<222> (1)...(2406)
<223> n = A,T,C or G

<400> 5

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ytnytntggc cngtnccngg ngcnggngtn ytncarggnc ayathccngg ncarccngtn     120
acnccncayt gggtnytnga yggncarccn tggmgnacng tnwsnytnga rgarccngtn     180
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wsnaarccng ayatgggnyt ngtngcnytn gargcngarg gncargaryt nytnytngar 240
ytngaraara aycaymgnyt nytngcnccn ggntayathg aracncayta yggnccngay 300
ggncarccng tngtnytngc nccnaaycay acngaycayt gycaytayca rggnmgngtn 360
mgnggnttyc cngaywsntg ggtngtnytn tgyacntgyw snggnatgws nggnytnath 420
acnytnwsnm gnaaygcnws ntaytayytn mgnccntggc cnccnmgngg nwsnaargay 480
ttywsnacnc aygarathtt ymgnatggar carytnytna cntggaargg nacntgyggn 540
caymgngayc cnggnaayaa rgcnggnatg acnwsnytnc cnggnggncc ncarwsnmgn 600
ggnmgnmgng argcnmgnmg nacnmgnaar tayytngary tntayathgt ngcngaycay 660
acnytnttyy tnacnmgnca ymgnaayytn aaycayacna arcarmgnyt nytngargtn 720
gcnaaytayg tngaycaryt nytnmgnacn ytngayathc argtngcnyt nacnggnytn 780
gargtntgga cngarmgnga ymgnwsnmgn gtnacncarg aygcnaaygc nacnytntgg 840
gcnttyytnc artggmgnmg nggnytntgg gcncarmgnc cncaygayws ngcncarytn 900
ytnacnggnm gngcnttyca rggngcnacn gtnggnytng cnccngtnga rggnatgtgy 960
mgngcngarw snwsnggngg ngtnwsnacn gaycaywsng arytnccnat hggngcngcn 1020
gcnacnatgg cncaygarat hggncaywsn ytnggnytnw sncaygaycc ngayggntgy 1080
tgygtngarg cngcngcnga rwsnggnggn tgygtnatgg cngcngcnac nggncayccn 1140
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gaytgytgyg tnmgntgyyt nytnaarccn gcnggngcny tntgymgnca rgcnatgggn 1440
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wsngaygcng cnggngcngc ngarggnacn ytnmgngcng tngcnccnaa ratggcncay 2220
acnggnacna cnccntgggc ngcnttyacn ccntggwsnt gggcnccnca rccnytngay 2280
wsnccnggnc cntggacnyt nmgnacnytn atgwsnccng cngcnacnyt nmgnwsnytn 2340
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garmgn 2406

<210> 6
<211> 2439
<212> DNA
<213> Artificial Sequence

<220>
<223> Degenerate sequence

<221> misc_feature
<222> (1)...(2439)
<223> n = A,T,C or G

<400> 6

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acnccncayt gggtnytnga yggncarccn tggmgnacng tnwsnytnga rgarccngtn 180
wsnaarccng ayatgggnyt ngtngcnytn gargcngarg gncargaryt nytnytngar 240
ytngaraara aycaymgnyt nytngcnccn ggntayathg aracncayta yggnccngay 300
ggncarccng tngtnytngc nccnaaycay acngaycayt gycaytayca rggnmgngtn 360
mgnggnttyc cngaywsntg ggtngtnytn tgyacntgyw snggnatgws nggnytnath 420
acnytnwsnm gnaaygcnws ntaytayytn mgnccntggc cnccnmgngg nwsnaargay 480
ttywsnacnc aygarathtt ymgnatggar carytnytna cntggaargg nacntgyggn 540
caymgngayc cnggnaayaa rgcnggnatg acnwsnytnc cnggnggncc ncarwsnmgn 600
ggnmgnmgng argcnmgnmg nacnmgnaar tayytngary tntayathgt ngcngaycay 660
acnytnttyy tnacnmgnca ymgnaayytn aaycayacna arcarmgnyt nytngargtn 720
gcnaaytayg tngaycaryt nytnmgnacn ytngayathc argtngcnyt nacnggnytn 780
gargtntgga cngarmgnga ymgnwsnmgn gtnacncarg aygcnaaygc nacnytntgg 840
gcnttyytnc artggmgnmg nggnytntgg gcncarmgnc cncaygayws ngcncarytn 900
ytnacnggnm gngcnttyca rggngcnacn gtnggnytng cnccngtnga rggnatgtgy 960
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gcnacnatgg cncaygarat hggncaywsn ytnggnytnw sncaygaycc ngayggntgy 1080
tgygtngarg cngcngcnga rwsnggnggn tgygtnatgg cngcngcnac nggncayccn 1140
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ytnytngayg gnwsnccntg ygcnmgnggn wsnggntayt gytgggaygg ngcntgyccn 1560
acnytngarc arcartgyca rcarytntgg ggnccnggnw sncayccngc nccngargcn 1620
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ggngtntgya aywsnaayca yaaytgycay tgygcnccng gntgggcncc nccnttytgy 2040

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aaywsncayg arccnwsnws ncayccngar aarccnytnc cngcngtnws nccngayccn 2400
cargaycarg tncaratgcc nmgnwsntgy ytntggtrr 2439

<210> 7
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide ZC17,993

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<210> 8
<211> 21
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<220>
<223> Oligonucleotide ZC17,994

<400> 8
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<210> 9
<211> 27
<212> DNA
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<220>
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<400> 9
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<210> 10
<211> 23

<212> DNA
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<220>
<223> Oligonucleotide APII

<400> 10
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<210> 11
<211> 24
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<220>
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gcaggaaggt gtcatggttt tcag 24

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<220>
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<400> 12
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<210> 13
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<212> DNA
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<220>
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<400> 13
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<210> 14
<211> 4
<212> PRT
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<210> 15
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<210> 18
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<220>
<223> oligonucleotide ZC18,604

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<210> 19
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide ZC18,605

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<210> 20
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<212> DNA
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<220>
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<400> 20
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<400> 21
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<210> 22
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<223> oligonucleotide ZC20,633

<400> 22
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<210> 23
<211> 20
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<213> Artificial Sequence

<220>
<223> oligonucleotide ZC13,006

<400> 23
ggctgtcctc taagcgtcac 20

<210> 24
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<220>
<223> ologonucleotide ZC21,076

<400> 24
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<210> 25
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<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide ZC21,074

<400> 25
gccgtagtgg gtttctatgt atcc 24

<210> 26
<211> 18
<212> DNA
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<220>
<223> oligonucleotide ZC21,075

<400> 26
tcggcggctg ctaaatgg 18